



**INVENTOR'S DECLARATION FOR  
PATENT APPLICATION**

As below named inventors, we hereby declare that:

Our residence, post office address and citizenship are as stated below next to our names;

We believe we are the original, first and sole joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled

**A METAL GATE SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD**

the specification of which: (check one)

  X   is attached hereto.

       was filed on                       
under Attorney's Docket Number             
as Application Serial No.                       
and was amended on                      (if applicable).

We hereby authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.).

We hereby state that we have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the patentability of this application in accordance with 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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FULL NAME OF INVENTOR: Chien-Chao Huang

INVENTOR'S SIGNATURE: Chien-Chao Huang DATED: Apr. 1, 2004

RESIDENCE: Hsin-Chu City, Taiwan, ROC

POST OFFICE ADDRESS: 6F-1, No. 32, Ti-Yu St., Hsin-Chu City 300,  
Taiwan

CITIZENSHIP: Taiwan, R.O.C.

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FULL NAME OF INVENTOR: ☒ Kuang-Hsin Chen

INVENTOR'S SIGNATURE: \_\_\_\_\_ DATED: \_\_\_\_\_ ☒

RESIDENCE: \_\_\_\_\_

POST OFFICE ADDRESS: \_\_\_\_\_

CITIZENSHIP: Taiwan, R.O.C.

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FULL NAME OF INVENTOR: Fu-Liang Yang

INVENTOR'S SIGNATURE: Fu-Liang Yang DATED: 31 Mar 2004

RESIDENCE: Hsin-Chu City, Taiwan, R.O.C.

POST OFFICE ADDRESS: 7F-3, No. 68, University Road  
Hsin-Chu City, Taiwan, R.O.C.

CITIZENSHIP: Taiwan, R.O.C.

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PATENT / DOCKET NO.: 24061.165 / TSMC2003-1068  
CUSTOMER NO.: 27683

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FULL NAME OF INVENTOR: Chien-Chao Huang

INVENTOR'S SIGNATURE: Chien-Chao Huang DATED: Apr. 1, 2004

RESIDENCE: Hsin-Chu City, Taiwan, ROC

POST OFFICE ADDRESS: 6F-1, No. 32, Ti-Yu St., Hsin-Chu City 300, Taiwan

CITIZENSHIP: Taiwan, R.O.C.

---

FULL NAME OF INVENTOR: Kuang-Hsin Chen

INVENTOR'S SIGNATURE: Kuang-hsin Chen DATED: ✓ Apr 14, 2004

RESIDENCE:

POST OFFICE ADDRESS: 400, Chun-Fu Road, Jung-Li City,

CITIZENSHIP: Taiwan, R.O.C.

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FULL NAME OF INVENTOR: Fu-Liang Yang

INVENTOR'S SIGNATURE: Fu-Liang Yang DATED: 31 Mar 2004

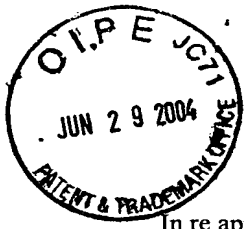
RESIDENCE: Hsin-Chu City, Taiwan, R.O.C.

POST OFFICE ADDRESS: 7F-3, No. 68, University Road  
Hsin-Chu City, Taiwan, R.O.C.

CITIZENSHIP: Taiwan, R.O.C.

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R-70487.1



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:  
Huang et al.

Serial No.: Unknown

Filed: Herewith

For: A METAL GATE SEMICONDUCTOR  
DEVICE AND MANUFACTURING  
METHOD

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Attorney Docket No.: 24061.165  
TSMC2003-1068

Customer No. 27683

Group Art Unit: Unknown

Examiner: Unknown

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

POWER OF ATTORNEY FOR PATENT APPLICATION

As a representative of the Assignee, Taiwan Semiconductor Manufacturing Company, Ltd., I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

David L. McCombs (Reg. No. 32,271); Jeffrey M. Becker (Reg. No. 35,442); James R. Bell (Reg. No. 26,528); Timothy F. Bliss (Reg. No. 50,925); Randall C. Brown (Reg. No. 31,213); Randall E. Colson (Reg. No. 40,566); Michael A. Davis, Jr. (Reg. No. 35,488); Andrew S. Ehmke (Reg. No. 50,271); Priscilla Ferguson (Reg. No. 42,531); Sarah T. Harris (Reg. No. 35,891); William E. Hickman (Reg. No. 46,771); David R. Hofman (Reg. No. P-55,727); Rita M. Irani (Reg. No. 31,028); Wei Wei Jeang (Reg. No. 33,305); Warren B. Kice (Reg. No. 22,732); J. Andrew Lowes (Reg. No. 40,706); Todd Mattingly (Reg. No. 40,298); Julie Nickols (Reg. No. 50,826); Gloria Norberg (Reg. No. 36,706); David M. O'Dell (Reg. No. 42,044); T. Murry Smith (Reg. No. 30,222); and Chien Wei Chou (Reg. No. 41,672).

Please address all correspondence and telephone calls regarding this application to:

David M. O'Dell  
Attorney for Applicants  
Haynes and Boone, LLP  
901 Main Street, Suite 3100  
Dallas, TX 75202-3789  
972-739-8635 / 214-200-0853 - Fax

The undersigned is the representative for the Assignee of the entire right, title, and interest in the patent application identified above. A copy of the assignment or other documents in the chain of title are attached.

The undersigned (whose title is supplied below) is authorized to act on behalf of the Assignee.

Taiwan Semiconductor Manufacturing Company, Ltd.

Chien-Wei Chou

Title: Director, IP Division

Date

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Patent / Docket No. 24061.165 / TSMC2003-1068

Customer No. 27683

said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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Inventor Name: Chien-Chao Huang

Residence Address:

Taiwan, R.O.C.

Dated: Apr. 1, 2004

Chien-Chao Huang  
Inventor Signature

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Inventor Name: Kuang-Hsin Chen

Residence Address:

Taiwan, R.O.C.

✓  
Dated: \_\_\_\_\_

✓  
\_\_\_\_\_  
Inventor Signature

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Inventor Name: Fu-Liang Yang

Residence Address: 7F-3, No. 68, University Road  
Hsin-Chu City, Taiwan, R.O.C.  
Taiwan, R.O.C.

Dated: 21 March 2004

Fu-Liang Yang  
Inventor Signature

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Patent / Docket No. 24061.165 / TSMC2003-1068  
Customer No. 27683

said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

Inventor Name: Chien-Chao Huang

Residence Address:

Taiwan, R.O.C.

Dated: Apr. 1, 2004

Chien-Chao Huang  
Inventor Signature

Inventor Name: Kuang-Hsin Chen

Residence Address:

Taiwan, R.O.C.

Dated: ✓ Apr. 14, 2004

✓ Kuang-Hsin Chen  
Inventor Signature

Inventor Name: Fu-Liang Yang

Residence Address: 7F-3, No. 68, University Road  
Hsin-Chu City, Taiwan, R.O.C.  
Taiwan, R.O.C.

Dated: 21 March 2004

Fu-Liang Yang  
Inventor Signature

R-70485.1

**ASSIGNMENT**

WHEREAS, we,

- |     |                  |    |   |
|-----|------------------|----|---|
| (1) | Chien-Chao Huang | of |   |
| (2) | Kuang-Hsin Chen  | of |   |
| (3) | Fu-Liang Yang    | of | 7F-3, No. 68, University Road<br>Hsin-Chu City, Taiwan, R. O.C. |

have invented certain improvements in

**A METAL GATE SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD**

for which we have executed an application for Letters Patent of the United States of America,

  X   of even date filed herewith; and  
       filed on        and assigned application number       ; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd., ("TSMC"), No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, Republic of China. is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the